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ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION CONTRACT NO: EDH-I-00-08-00023

MONTHLY PROGRESS REPORT – OCTOBER 2015

11 November 2015

The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the US Government.

ENGINEERING SERVICES FOR RURAL ROAD REHABILITATION (ES3R) CONTRACT NO. EDH-I-00-08-00023

MONTHLY PROGRESS REPORT OCTOBER 2015

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Acronyms

A & E	Architect and Engineer
BOQ	Bills of Quantity
COP	Chief of Party
COR	Contracting Officer Representative
EMMP	Environmental Mitigation and Monitoring Plan
ES	Environmental Specialist
ESMMP	Environmental & Social Mitigation & Monitoring Plan
ES3R	Engineering Services for Rural Roads Rehabilitation
ETL	Engineering Team Leader
FED	Food and Enterprise Development
FTF	Feed the Future
FTL	Field Team Leader
F2M	Farm to Market
F2MRR	Farm to Market Road Rehabilitation
GIS	Geographic Information System
GOL	Government of Liberia
LESSP	Liberia Energy Sector Support Project
LMWP	Liberia Municipal Water Project
MOF	Ministry of Finance
MPEA	Ministry of Planning and Economic Affairs
MPW	Ministry of Public Works
OCA	Organizational Capacity Assessment
PIRS	Performance Indicator Results Sheet
RE	Resident Engineer
SI	Site Inspector
USAID	United States Agency for International Development

ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION (ES3R)

MONTHLY PROGRESS REPORT OCTOBER2015

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1. SUMMARY PROJECT DESCRIPTION

1.1 Introduction

The U. S. Agency for International Development's (USAID) 'Engineering Services for Rural Roads Rehabilitation (ES3R)' was awarded to CDM International Inc. (CDM) under USAID contract number: EDH-I-00-08-00023 and task order AID-669-TO-13-00002 with a period of performance of 8 October 2013 to 20 October 2015. The project was later extended by modification to extend the performance period to April 2016.

Liberia's Farm to Market Rural Roads (F2MRR) activity is allied with the objectives of the Feed the Future (FTF) initiative. FTF is a U.S. government initiative, which aims to address the root causes of global hunger by sustainably increasing agricultural productivity. F2MRR will provide infrastructure investment in the rehabilitation of rural farm-to-market roads to support the following:

- USAID /Liberia FTF program Food and Enterprise Development (FED),
- Capacity development for routine maintenance systems within the Government of Liberia (GOL),
- Capacity development of Ministry of Public Works (MPW) rural roads engineers and local A & E firms,
- Development of alternative low volume road pavement pilot projects, standards and design specifications.

1.2 Objectives

Within F2MRR, ES3R will be an implementing mechanism which will undertake the following objectives:

Objective 1:

Provide construction oversight for three (3) local contracts for the rehabilitation of a total of 83.5 kilometers farm-to-market roads in Bong, Lofa, and Nimba counties from 2013 to 2015.

Objective 2:

Produce engineering designs and construction documents for the 450 kilometers farm-to-market roads in Bong, Lofa, Nimba, and Grand Bassa counties to be rehabilitated in 2015 to 2018.

Objective 3:

Training and pre-qualification of five (5) local architect-engineer firms capable of providing oversight for road rehabilitation activities by 2015.

This monthly progress report covers the progress of the works for the month of October 2015. In addition, the report details the status and approach to project challenges and presents an outline schedule for the forthcoming month.

1. OCTOBER 2015 OVERVIEW

Preamble

During this reporting period, the ES3R team was engaged in field surveys verifications, interventions, and other geotechnical and hydrology data collection needed in preparation for road and culvert design. Construction oversight activities in the three Counties continued to be carried out by the team, along with capacity building activities in the planning of on-the job training to the A&E engineers.

2.1 October 2015 Highlights Summary

The table below provides a summary of the Project highlights:

Date	Description	Comment
October 5, 12, 19, 26 2015	Weekly coordination meeting with ES3R staff on road, box culverts and bridges' design work progress	ES3R
October 5, 12, 19, 26 2015	Submittal of weekly updates	To USAID Liberia
October 15, 2015	Submittal of Quarterly Report	USAID COR
October 12, 2015	Joint (Road, Box Culverts and Bridge) Design review at Mamba Point Hotel	To USAID Liberia, MPW and ES3R
October 6, 2015	Meeting with MPW Dep Minister for determination of sharing operation cost of ES3R in MPW premises	MPW
October 16, 2015	Meeting with Swedish International Development Agency for coordination of Feeder Road supervision procedures	MPW & ES3R team
October 16, 2015	Report for TRC 10% Design Stage	CDM Smith TRC Members
October 29, 2015	Contract Mod 1 -extend services of local Environmental Specialist and Administration Assistant	To Five A&E firms

2.2 Details of Highlights

2.2.1 Project Deliverables and Documentation

Monthly Progress Report

The last monthly report submitted was for the month of August 2015.

The main contains of the report are:

- Highlights Summary
- Details of Highlights
- Progress Meetings with USAID
- Field Visits to Counties Sites
- Project Deliverables and Documentation
- Design of Bridgeworks
- Revised Work Plan
- Objective 1 – Construction Oversight
- Objective 2 – Design and Contract Documents
- Objective 3 – Training and Capacity Building
- Performance Management Plan – PIRS

Letters / E mails from USAID/Liberia

The following communications addressed to the ES3R Project from USAID were received during the reporting period:

- October 4, 2015: Email from USAID COR notifying ES3R that USAID will be sending a project closeout letter, which normally occurs six months in advance of the date of project completion.
- On October 5, email from USAID COR suggesting the organization of a meeting with Minister Paye for later the same week to discuss the issue of the office space in the premises of the Ministry of Public Works

for USAID ES3R, he further advised that USAID might have to attend the meeting along with a draft agreement.

- On October 6, email from USAID COR recommending that the duration of office space agreement must exceed the period of performance of ES3R, the letter needs to be addressed to USAID by the Ministry of Public Works
- On October 9, 2015 email from USAID COR advising that data entry period for annual data into PIDS is due within the next two weeks; ES3R data needs to be entered consistent with the quarterly reports.
- On October 9, 2015, email from USAID COR providing Travel approval for Mr. Eugene Becker, CDM Financial Officer to travel Monrovia from 18 to 23 October, 2015 to conduct a financial audit of the ES3R project accounts.
- On October 15, 2015 from USAID COR advised that GIS data should be input to PIDS; this data would include three sets of tracks:
 - Tracks of roads under phase I (84.5 km) substantially completed
 - Tracks of roads under rehabilitation (75.2 km) under rehabilitation
 - Tracks of roads under design (387 km), currently in design phase
- On October 21, 2015, email from USAID COR communicating the no-objection to the hire the remaining Engineer Inspector for Bong County Team utilizing the services of one of A&E firms' trained engineer provided that LOE is sufficient

2. PROJECT OBJECTIVES PROGRESS

3.1 Team Structure

The field based teams have adopted the revised structure illustrated in the Y2 Work-plan is as follows:

Team 1

Responsible for road and pipe culvert design in the Counties of Lofa and Nimba in addition to construction oversight in Lofa.

Field Team Leader: Geoffrey Kibisi; responsible for coordinating and managing field surveys, construction oversight and national staff mentoring.

Resident/Design Engineer: Roosevelt Ballah; responsible for field survey activities.

Inspector Engineer: George OC Kaicora; responsible for road construction oversight.

Surveyor: provided by Geo Surv; responsible for topographic survey in support of surveys #1 and 2.

Team 2

Responsible for road and pipe culvert design in the Counties of Grand Bassa and Bong in addition to construction oversight in Bong County.

Field Team Leader: Frederick Were-Higenyi; responsible for Grand Bassa/Bong Team. Dr. Were-Higenyi has been accepted as replacement of James Clarke in the post of Engineering Team Leader by USAID. It is proposed as per the Inception Report the promotion of the Resident Engineer, Richard Freeman to Field Team Leader.

Resident/Design Engineer: Mr. Jusu Holmes is in charge of the field survey and geotechnical/hydrology investigation.

Assistant Engineer (Staff from MPW); position for a Feeder Road Engineer from the Ministry of Public Works.

Topographic Survey Team: Geo Surv; responsible for topographic survey in support of surveys 1 & 2 and bridges.

Team 3

Box Culvert Design, Nimba, Grand Bassa, Lofa and Bong as well as construction oversight in Nimba County.

Field Team Leader: Jackson Kirungi; responsible for coordination of topographic survey, hydraulic and structural assessments, location of structure, materials investigation and construction procedures.

Resident/Design Engineer: James Appleton; responsible for topographic survey and supervision of materials investigation.

Assistant Engineer: (Staff from MPW); position for a Feeder Road Engineer from the Ministry of Public Works to be mobilize in first week of August.

Team 4

Bridge design Team, for Nimba, Grand Bassa, Lofa, and Bong bridges.

Team mobilization took place on 1 August 2015

Many key activities of the Bridge Team require low level flows in watercourses to be bridged.

3.2 Objective 1 – Construction Oversight

3.2.1 General

Two construction Contractors received contract modifications in April 2015 and the third one received a modification in May 2015. All of them have been fully mobilized and making progress.

Work activities during the reporting period include maintenance of the completed roads under the original scope and rehabilitation works under the additional scope in all the three counties.

The table below provides a summary of the contract data and progress for each of the three contracts.

Description	Westwood Corp: BONG	SSF: LOFA	21 st Century: NIMBA
Contract Award	22 Jan 2014	27 Jan 2014	22 Jan 2014
Modification	7 April 2015	26 May 2015	7 April 2015
Contract Period; days initial scope comp.	16 months	16 months	16 months
Maintenance and defects liability	8 months	8 months	8 months
Additional scope – to complete	12 months	12 months	15 months
Maintenance and defects liability	8 months	8 months	8 months
Extension of time due to EVD		3 months	
Time Elapsed Original scope	Completed	Completed	Completed
Time elapsed Additional scope	58%	42%	58%
Comp. date for construction: initial scope	22 May 2015	27 August 2015	22 May 2015
Comp. date for construction additional works	6 April 2016	25 May 2016	6 July 2016
Overall Assessed Completion, Original scope	Completed	Completed	Completed
Additional scope	23%	18%	18%
Total Contract Value, Original scope	\$1,895,141.86	\$592,384	\$843,228.25
Additional scope	<u>\$1,861,722.41</u>	<u>\$973,851.35</u>	<u>\$2,183,507</u>
Total	\$3,756,864.27	<u>1,566,235.35</u>	\$3,026,286
Value of works certified as of July 2015, USD	\$1,837,030	\$578,706	\$820,363

Additional scope	\$95592	\$0	\$386,134
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3.2.2 Bong County

Westwood Corp. Inc. was awarded a contract on 22 January, 2014 and a modification (additional scope) on 7 April, 2015. Construction of three roads totaling 49.6 km under the original scope (Phase I) was substantially completed. Rehabilitation of two roads totaling 31.6 km under the modification scope is on-going. During the period under review the progress on the additional scope was slowed due to rainy season.

Phase I road links is shown below.

1.	Tolomai - Leleh – Palala	29.9 Km
2.	Gbenequelleh – Janyea	10.5 Km
3.	Gbenequelleh - Duita to Molly Town	9.2 Km
TOTAL		49.6 Km

Phase II road links and contract data is shown below.

1.	Taylorta - Marlonta to Yandewoin	14.1 Km
2.	Gbondoi - Gbarnla Road	17.5 Km
TOTAL		31.6 Km

Construction oversight supervision continued to be provided by the Site Inspector on a daily basis while the Field Team Leader conducted weekly visits.

The original scope was substantially completed and maintenance works on-going on the road links. The additional scope physical progress stands at: Setting out – 9.4 km (30%); site clearing – 25 km (78%); and reshaping – 9 km (29%).

3.2.3 Lofa

SSF was awarded a contract on 27 January, 2014 and a modification (additional scope) on 26 May, 2015. Construction of three roads totaling 13.6 km under the original scope (Phase I) was substantially completed. The scope under the modification covers one road of 15 km. During the period under review the progress had almost come to a halt due to the heavy rains.

The Phase I road links and contract data is shown below.

1.	Barkedu-Jamulor-Moibadu	8.3 km
2.	Bitijama	3.6 km
3.	Galamai	1.7 km
TOTAL		13.6 km

Phase II road links is shown below.

1.	John's Town-Bulor	15.0 km
TOTAL		15.0 Km

Construction oversight supervision continued to be provided by the Site Inspector on a daily basis while the Field Team Leader conducted weekly visits.

Works under the original scope were substantially completed while progress under the additional scope during the month of October 2015 was as follows:

- 27 reinforced concrete pipes of 600 mm diameter and 9 of 900 mm diameter were delivered on site.
- 3 km of final clearing was completed.
- Some construction materials such as cement, coarse aggregates, reinforcement bars were delivered on site.

3.2.3 Nimba County

21st Century was awarded a contract on 22 January, 2014 and a modification (additional scope) on 7 April, 2015. The original scope entailed construction of three roads totaling 21.5 km which was substantially completed. The scope under the modification covers two roads of totaling 27.9 km. similar to the other two contractors, heavy rains affected the progress of works during the period under review.

The Phase I road links is shown below.

1.	Bahn-Payee-Zuoplay	14.9 Km
2.	Dwonwea-Zoe Lappa	4.1 Km
3.	Duanpea	2.5 Km
TOTAL		21.5 Km

Phase II road links is shown below.

1.	Gogein-Zuaplay junction – Doumpa-Zuaplay	22.1 Km
2.	Gaopa-Garwompa	5.8 Km
TOTAL		27.9 Km

During the month under review the works undertaken included the following:

Phase 1 roads

- Routine maintenance works on completed sections and culvert locations.
- Repair works at Bahn – Payee Lee bridge relief log culvert.
- Embankment filling to Lee bridge approaches.
- Removal of Lee Bridge Deck props and removing dykes to open water channel.
- The Bahn City Mayor visited the Lee bridge on Bahn-Payee road.

Phase 2 Roads

- Carried out laterite surfacing on 1.2 Km of Gaopa to Garwompa road (Km 4+700 - 5+100, Km 3+183 - 3+300, 3+450 – 3+700, 3+883 – 4+000, 4+300 – 4+450, 5+050 – 5+116)
- Constructed 4 lines of 600mm diameter reinforced concrete pipe culverts on Gogein – Zuaplay road.
- Constructed 1 line of 900mm diameter reinforced concrete pipe culverts Gaopa to Garwompa road (Km 1+975)
- The contractor completed the concrete culvert pipe fabrication for the second phase roads.
- Stripping unsuitable materials from the road formation on the Gogein - Zuaplay Road between Km 6+000 – Ch7+200

Construction oversight summary:

- Bong County: Total number of links (Phase I and II): 81.2 KM
- Nimba County: Total number of links (Phase I and II): 49.4 KM
- Lofa County: Total number of links (Phase I and II): 28.6 KM

3.3 Objective 2 – Design of Prioritized Road Links

General:

Section 3.1 indicates the proposed team structure for delivery of outputs on this component. Outputs for the design team are listed below:

Field surveys entailed the following:

1. Community sensitization – District Commissioners, Paramount Chiefs and traditional leaders of communities along road link.
2. Chaining of road links.
3. Current land use within road corridor– providing type/density of clearance required and presence of cash crops within road corridor.

4. Culvert location, sizing, identification of inlet and outlet structures and length/nature of outlet channel (includes topographic survey).
5. Carriageway defect identification and selection of remedial interventions.
6. Selection of Geometric cross section – a function of traffic characteristics and topography either side of the road corridor.
7. Topographic survey along road link centerline and selection of appropriate longitudinal storm drainage interventions.
8. Road Inventory location and description of existing road signs villages, schools etc.
9. Environmental and social aspects.

Team 1: Road links Lofa and Nimba:

All project roads in the two counties were surveyed resulting in a total of 92.7 km for Nimba County and 96.4 km for Lofa County. The Konia-Zigida road link was suspended and replaced with Bulor- Goyala (1.8 km) as directed by USAID to

Similarly, from the Nimba prioritized list, 6 short road links were suspended and replaced with Graie-Toweh Town-Yourpea 2-Yourpea 1 road (47.7 km).

By the end of the reporting period, designs for a total of 34.6 km (12.2 km in Lofa and 22.4 km in Nimba) had been prepared.

Team 2: Road links Bong and Grand Bassa

Similarly, all project roads in Grand Bassa and Bong counties were surveyed. The survey resulted into 139.13 km in Grand Bassa and 57.76 km in Bong.

Designs for about 47.1 km, all in Grand Bassa, had been prepared by end of October 2015.

Team 3: Box Culverts, Lofa, Nimba, Bong and Grand Bassa

Box Culvert surveys included collection of data for hydrology of river and hydraulic design of box culvert apertures. A total of 37 of Box Culverts were surveyed of which 4 were on the suspended roads. To date a total of 13 box culverts have been prepared.

Team 4, Bridge Design

Mobilization of team members started in the month of August. A total of 14 bridge sites were surveyed of which 6 had been designed by end of October 2015.

Summary:

The prioritized road links in the four counties subject to design have been surveyed summing to a total of 393.39 km.

The road links and details are listed below:

Bong County

1	Foequelleh-Morgan	2.20 km
2	Foequelleh-Menequah-Yowee	13.35 km
3	Felela-Jarwuta	9.13 km
4	Wensue-Kpai	8.78 km
5	Sinyea-Kayata	13.3 km
6	Bassa Town-Veleyan-Molonakpaiga	11.0 km
	Total	57.76 Km

Nimba County

1	<i>Garwompa-Nyonkiayee (Designed)</i>	<i>22.5 km</i>
2	Kpai-CNC Junction (Zao)	10.0 km
3	Boyee Junction-Goekorpa	12.5 km
4	Graie-Toweh Town-Yourpea 2	47.7 km
	Total	92.7 km

Lofa County

1	<i>John's Town Tusu (Designed)</i>	<i>10.8 km</i>
2	Koiba City-Koilahun-Bolahun	9.4 km
3	Checkpoint-Bassamolahun-Ngorkohun	6.7km
4	FoyaTown-Yasadu	14km
5	Foya Town-Sangai-Kelima Pombor	9.8km
6	<i>Bulor – Goyala (Designed)</i>	<i>1.8km</i>
7	Zelemai-Womai	22.4 km
8	Zorzor-Yeala Boarder	7 km
9	Zorzor-Kpaiyea-Gbarnway	14.5 km
	TOTAL	96.4km

Grand Bassa County

1.	Ben Luogan-Kor	2.48 km
2.	Blewein-Doewein-Sarwain	9.58 km
3.	Compound 1-Little Bassa-Vermah	21.82 km
4.	Compound 1-Doezoh	0.85 km
5.	<i>Compound 2-Zahn (Designed)</i>	<i>18.80 km</i>
6.	Garpu-Behn	6.30 km
7.	James Hennry-Kardor	11.95 km
8.	Karsuah-Newcess Beach	10.20 km
9.	Siah-Weiker	3.20 km
10	Tain-Frank	2.13 km
11	<i>Waka-Johnny Tutu (Designed)</i>	<i>7.28 km</i>
12	<i>Waka-Compound 2 (Designed)</i>	<i>20.59 km</i>
13	Yonbehn-Grand Kola	23.95 km
	TOTAL	139.13 Km

3.4 Objective 3 – Capacity Building

MPW Feeder Road Engineers:

One the four (4) MPW Feeder Roads Engineers deployed to the project was demobilized for another training program abroad. The remaining three engineers are assigned to Lofa, Nimba and Bong Counties. All of the MPW staff have been exposed to road and culverts construction oversight and are now participating in the road design activity.

3. PROJECT CHALLENGES

The following items have been encountered recently which are continuing and pose challenges to the ES3R team and Project:

Challenge / Issue	Mitigation / Resolution
Road, Box Culverts and Bridge Design - time to complete	Extensions of contracts for the design teams up to March 2016

5. OUTLINE SCHEDULE

5.1 Outline Schedule for November 2015

Preamble

The Year 2 Work Plan was submitted to USAID on 27 February. The strategy remains the continuance of the construction oversight for the original 84 km (plus an additional 75 km from modification four), design of 375 km (updated to 393km) road links and capacity building of the A&E Firms. The additional 18 km may be a subject of cost variation which will be analyzed and proposed in upcoming reports.

Since field survey of all project roads in the four counties were completed by the end of July and survey data entered into computers, the ES3R team has continued to undertake the design of road links, 34 box culverts and 14 bridges.

Objective 1 – Construction Oversight

ES3R field staff has continued to provide construction oversight to the three on-going contracts in Bong, Lofa and Nimba in Phase –II plus completion of the snag list works during the Defects Liability Period.

Oversight of the additional 75 km continues to be provided by the ES3R team until the time the upcoming project, which will overlap the present ES3R.

Objective 2 – Design and Contract Documents

Team 1: Lofa and Nimba will continue with designs and tender documentation for Graie-Yourpea (47.7 km) in the coming month.

Team 2: Bong and Grand Bassa will continue with designs and tender documentation for a total of 27 km namely: Yohnben-Grand Kola (24 km), Ben Lougan-Kor (2 km) and Doe-Zahn (1 km) by end of November 2015.

Team 3: Box Culverts Bong Grand Bassa and Nimba will continue with design and tender documentation for 3 box culverts by end of November 2015.

Team 4: Bridge Team will continue with design of 3 bridges to be delivered by end of November 2015.

Objective 3 – Capacity Building

Training and capacity building of the five Engineers from the A&E Firms was concluded as scheduled on 4 September at the time of closing the Workshop to Principals of the five A&E Firms.

The last Workshop on Road to Business Development conducted late August and closed on 4 September 2015 marks the end of Component 3 contractually.

The five trained firms are now ready to undertake support the other projects similar to ES3R. Separate report is under preparation and will be included in the Final Completion Report end of March 2016.

The total number of trained people is 15, out of them, 10 belong to the principals and managers of the firms in addition to the five engineers that participated in the fields for on-the job-training.